



(1 of 2)

PTO/SB/08A (10-01)

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1

of

3

Complete if Known

Application Number	09/237,969
Filing Date	January 27, 1999
First Named Inventor	David Alexander
Art Unit	3714
Examiner Name	John L. Sotomayor
Attorney Docket Number	IMMR-023/01US

U.S. PATENT DOCUMENTS

Examiner	Cite No. ¹	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
JLS		2,972,140	2/14/1961	Hirsch	
		4,127,752	11/28/1978	Lowthorp	
		4,262,549	4/21/1981	Schwellenbach	
		4,333,070	6/1/1982	Barnes	
		4,439,162	03/27/1984	Blaine	
		4,464,117	8/7/1984	Foerst	
		4,484,191	11/20/1984	Vavra	
		4,885,565	12/5/1989	Embach	
		5,022,384	6/11/1991	Freels	
		5,165,897	11/24/1992	Johnson	
		5,175,459	12/29/1992	Danial et al.	
		5,186,695	2/16/1993	Mangseth et al.	
		5,283,970	2/8/1994	Aigner	
		5,436,622	7/25/1995	Gutman et al.	
		5,437,607	8/1/1995	Taylor	
		5,575,761	11/19/1996	Hajianpour	
		5,890,582	11/25/1997	Ulrich et al.	
		5,951,301	09/14/1999	Younker	
		6,111,577	8/29/2000	Zilles et al.	
		6,160,489	12/12/2000	Perry et al.	
JLS		6,422,941	7/23/2002	Thomer et al.	

Examiner Initials ¹	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)			
JLS		JP	H2-185278		7/19/1990	Taito Corporation	
		JP	H4-8381		1/13/1992	Epoch Co. and Key- Planning Co.	
		JP	H7-24147		1/27/1995	Sega Corporation	
JLS		JP	H5-192449		8/3/1993	Taito Corporation	

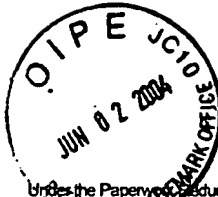
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet **2** of **3**

Complete if Known

Application Number	09/237,969
Filing Date	January 27, 1999
First Named Inventor	David Alexander
Art Unit	3714
Examiner Name	John L. Sotomayor
Attorney Docket Number	IMMR-023/01US

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
JLS		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.
		KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1</i> , ASME 1994.
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 nd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
		LAKE, "Cyberman from Logitech," at http://www.ibiblio.org/GameBytes/Issue21/greviews/cyberman.html , 1994.
JLS		YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," <i>Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Raleigh, NC, July 7-10, 1992

Examiner
Signature

John Sotomayor

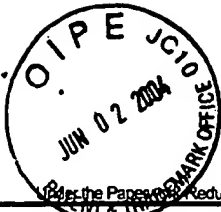
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Sheet 3 of 3

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Filing Date	January 27, 1999
First Named Inventor	David Alexander
Art Unit	3714
Examiner Name	John L. Sotomayor
Attorney Docket Number	IMMR-023/01US

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

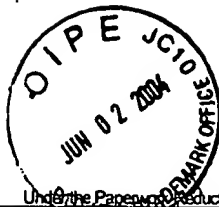
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
JJA		NOLL, "Man-Machine Tactile," <i>SID Journal</i> , July/August 1972 Issue.
		ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," <i>Ph.D. Dissertation</i> , Stanford University, June 1994.
		"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part no. C-25502," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).
		SCANNELL, "Taking a Joystick Ride," <i>Computer Currents</i> , Boston Edition, Vol. 9, No. 11, November 1994
JJA		"Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part no. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).

Examiner Signature	John Sotomayor	Date Considered	8/5/04
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Filing Date	January 27, 1999
First Named Inventor	David Alexander
Art Unit	3714
Examiner Name	John L. Sotomayor
Attorney Docket Number	IMMR023/01US

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<i>JLS</i>		4,936,892	06/1990	Walker et al.	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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<i>JLS</i>		WESTWOOD, J.D., HOFFMAN H.M., STREDNEY D., WEGHORST S.J., "Training Environment for Inferior Vena Caval Filter Placement," article, Medicine Meets Virtual Reality, Jan 28-31, 1998, San Diego, California.	

Examiner
Signature

John L. Sotomayor

Date
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8/5/04

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